# Economics Information

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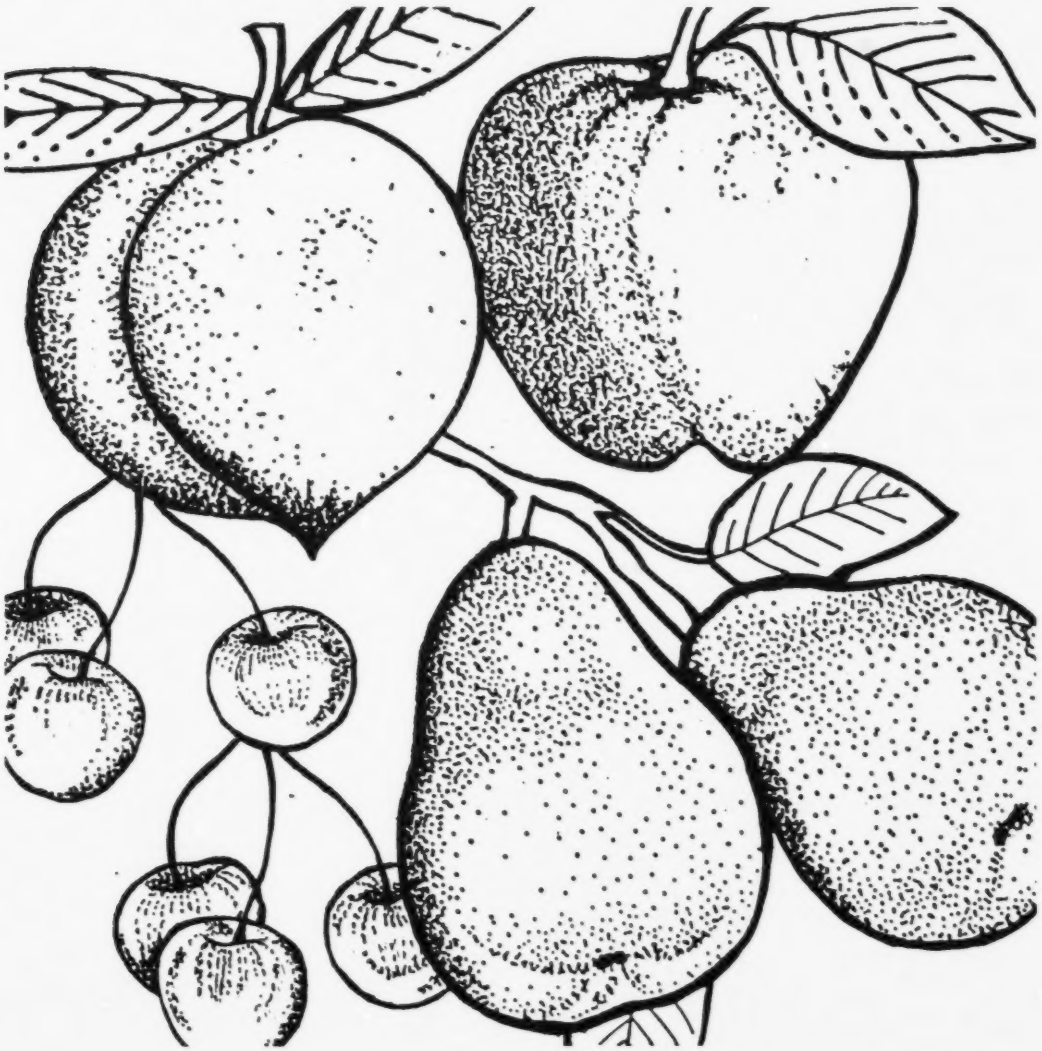
## FRUIT CROPS: ESTIMATED PRODUCTION COSTS ONTARIO, 1988



ECONOMICS AND POLICY
COORDINATION BRANCH

ONTARIO MINISTRY OF AGRICULTURE AND FOOD
LEGISLATIVE BUILDINGS, TORONTO, ONTARIO, M7A 1B6

ECONOMICS INFORMATION

REPORT NO. 88-07

# FRUIT CROPS:

# ESTIMATED PRODUCTION COSTS

# ONTARIO, 1988

By

E. D. McKibbon

Economics and Policy Coordination Branch
Ontario Ministry of Agriculture and Food
Legislative Buildings, Queen's Park
Toronto, Ontario, M7A 1B6

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Material in this report is based on information believed to be accurate at the time of publication; however, accuracy is not guaranteed. The crop production estimates result from a review of information from different sources and are based on many assumptions including estimates of land costs, levels of fertilizer use and cultural practices followed. Regional differences in crop production may result in variation in costs of production.

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## INTRODUCTION

Since 1948, the Economics and Policy Coordination Branch has carried out comprehensive studies of major field and horticultural crops grown in Ontario. These studies were designed to determine costs and returns of various farm enterprises, as well as the physical amounts of production inputs required.

Traditionally, data was collected by means of farmer interviews. Published reports of these studies in the form of county, regional and provincial averages found a wide distribution among extension and research personnel, educational institutions, farm organizations, lending institutions and policy makers. Cooperating farmers received reports showing their individual information in comparison with group averages.

With this extensive background in the development of cost studies, the Economics and Policy Coordination Branch has begun to use computers in the preparation of cost data. Methods of computer simulation have now replaced the time consuming process of data collection, tabulation and analysis.

With this new approach, special attention is paid to the physical quantities and prices of inputs for each crop studied. The technology used in the production of various crops is carefully examined so that the computer models accurately reflect the appropriate production technology for each commodity.

Information on physical inputs is obtained from a number of sources, including:

1. Previous studies done by this Branch;
2. Surveys of the farm supply trade;
3. Technical input/output coefficients; and
4. The consensus of producers, researchers, and extension and agribusiness personnel.

## THE DEVELOPMENT OF THE ACRES PROGRAM

A large number of computer programs that generate budgets and crop production cost estimates are now in existence. These computer programs vary in their degree of sophistication and in the amount of detail prepared. A large number of estimates covering a wide range of conditions can be generated quickly and efficiently. The effect of varying levels of technology, management practices and price levels can also be analyzed.

Cost of production estimates used in this report are based on the ACRES program. ACRES (Agricultural Crop Enterprises System) is a FORTRAN program originally written in Montana, adapted by Alberta Agriculture and recently modified and rewritten by the Economics and Policy Coordination Branch to meet Ontario conditions. All 1988 cost of production estimates in this report are based on this computer model.

## METHODS AND PROCEDURES

The information used in the preparation of each production cost estimate in this report was prepared through the use of recent Economics and Policy Coordination Branch studies, plus consultations with producers and extension, research and agribusiness personnel.

For each crop cost estimate in this report, the data was organized into variable and fixed costs and totalled to arrive at the cost of production both on a per acre and per hectare basis. Variable costs are those which vary directly with the production of each crop grown. They include seed, plants, hired labour, fertilizer, herbicides, insecticides, fungicides, other materials, machinery operating costs, marketing charges and interest on operating capital. Fixed costs inputs are operator labour, management allowance, interest on land, machinery and buildings, depreciation on machinery and buildings, taxes on real estate (net of farm tax rebate), and other overhead cost items.

In this report, cash costs of production are also determined. Cash costs include total variable costs, interest on the debt portion of investment in tractors and machines, and other overhead costs.

## LABOUR HOURS AND COSTS

The required number of labour hours was based on previous studies, as well as through discussions with those familiar with the production of each study crop. There are some crops which are harvested on a fixed rate per unit. For these crops, the labour hours and costs vary with the yields used in the cost estimate.

The operator labour hours were valued at $7.40 per hour. In addition, an allowance to management was made at the rate of 5 percent of the gross income.

The hired labour cost was calculated on a per hour basis and included benefits such as worker compensation, unemployment insurance and the Canada Pension Plan. The rates varied according to area, crop and skill involved.

For some crops, piece work rates were used which were suggested by local farm labour pools. An allowance of 15 percent of basic earnings was added to cover benefits.

## MATERIALS

The amount of each material input was based on commonly used practices. Input prices are based on averages charged by the trade in the area where the particular crop is grown. For most crops, the quantities of seed, plants, fertilizer nutrients and other inputs are given on a per hectare basis. Because of the multitude of products available, pesticides are grouped as herbicides, insecticides, fungicides, nematicides, etc. The cost and quantity of non-returnable containers is reported where applicable.

## TRACTORS, MACHINES AND TRUCKS

Machinery complements used in the various crop production cost estimates were assumed to be five years old. Tractor and machine costs included depreciation, interest on investment, insurance, storage, repairs, maintenance, fuel and lubrication. If machines were used for other farming operations, costs were adjusted based on the proportion of use on the study crop. The declining balance method of depreciation was used, and a 15 percent rate to powered and a 10 percent to non-powered machines was applied.

Interest on machinery investment was calculated on the assumption that the equity portion was 70 percent and the debt portion was 30 percent of the total depreciated value. For this report, interest on equity was calculated at 5.0 percent, which was the average interest rate paid by chartered banks on savings accounts. The interest on the debt portion was based on the average prime rate of 10.2 percent, plus one for a total of 11.2 percent. Insurance and storage costs for machinery were based on 1.5 percent of their purchase price.

Repair and maintenance costs for individual machines were based on the fact sheet, "Cost of Owning and Operating Farm Machines", Agdex 825, Ontario Ministry of Agriculture and Food.

Fuel costs were based on the size of each tractor, truck or self-propelled machine used in the production operation. The following farmgate fuel prices were used: gasoline - 29.0 cents/litre; diesel - 30.0 cents/litre. The cost of oil, grease and filters was calculated at 15 percent of the fuel cost.

## CUSTOM FARMWORK SERVICES

There are crops produced in Ontario where it is an accepted practice to use custom farmwork services to perform certain operations. Usually these services are employed when the farmer needs specialized machines, such as harvesters, sprayers, fertilizer applicators and trucks. Most of these machines cannot be economically owned and operated by one producer. Custom costs were itemized on a per hectare or per acre basis.

## LAND CHARGES

Determining the annual cost for land use is a controversial part in any study on production costs. During the past two decades, purchasers of farmland have been willing to pay more for it than can be justified from agricultural production. Purchasers believe the speculative aspect of land ownership in inflationary times offers benefits above those received from crop production. In deflationary times, however, this situation is reversed. For this reason, the appropriate interest rate used in calculating the interest cost on bare land for these crop production estimates is the real interest rate. The "real interest rate" is defined as the current leading rate of interest adjusted for inflation.

In this report, interest on land investment was calculated as follows:

1. The value of bare land was based on the average value for land in areas of Ontario where the production of each study crop predominates.

2. The interest rate applied was the average prime rate for 1987 of 9.5 percent discounted for the rate of inflation of 4.4 percent, which resulted in a 5.1 percent rate. It was assumed that land for all study crops would be purchased in the previous year prior to cropping.

No farm real estate taxes were charged to any study crop because of the 1988 Ontario Farm Tax Reduction Program.

## BUILDING COSTS

For those crops where buildings are used in grading, packing, and/or storage, a building cost allowance was made.

The initial cost of these structures was based on the assumption that buildings were five years old.

| Depreciation | % |
|---|---|
| Steel and concrete structures | 2.5 |
| Wood structures | 5.0 |
| Greenhouses | 2.0 |

The interest on building investment was set at 5.1 percent, which was also used in calculating interest on land investment.

| Repairs and Maintenance | % |
|---|---|
| Steel structures | 1.0 |
| Concrete structures | 0.25 |
| Wood structures | 1.5 |

Insurance

0.5 percent of initial costs

The cost of machine housing was covered under tractor and machine costs.

Allowances are made for the use of picking baskets, storage bins, and other pieces of reusable equipment required in the production of certain crops.

## INTEREST ON OPERATING CAPITAL

Interest on operating capital required to finance each crop was calculated from the time an expenditure was made until the time income was generated from sales. Operating capital includes the cost of materials, fuel, repairs, hired labour and other cash items. In this study, the interest rate applied to operating capital was the average estimated prime rate for 1988 of 10.2 percent plus 1 percent for a rate of 11.2 percent.

## OTHER OVERHEAD

This allowance covers such items as the study crop's share of utilities, accounting and administration costs, use of the farm automobile, and general farm maintenance.

## OTHER COST CONSIDERATIONS

Depending on the crop studied, there are certain additional costs such as crop insurance, marketing board fees, grading charges and selling commissions.

## YIELDS AND RETURNS

For each study crop presented in this report, a footnote to the table defines how the average yield and average price were calculated.

Additional information on average yields and prices is shown in the Appendix of this report.

## GROSS MARGIN ANALYSIS

Gross margin is the amount above the variable costs that a crop contributes to the operator for his wages, management, and to the investment in machinery and land.

## CASH ANALYSIS

The cash analysis section estimates the returns over cash costs. Cash costs comprise of all variable costs, as well as interest on the debt portion of tractor and machine investment, real estate taxes and other overhead costs.

Table 1.--Apples on Standard Trees:
Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 230 hours/ha | 1,206 | 488 |
| Other, 50.7 hours/ha | 262 | 106 |
| Fertilizer: | | |
| Am.nitrate, 36 kg/ha | 20 | 8 |
| Mur. of Pot., 80 kg/ha | 37 | 15 |
| Insecticides | 309 | 125 |
| Fungicides | 291 | 118 |
| Herbicides | 121 | 49 |
| Other sprays | 193 | 78 |
| Bee rental | 44 | 18 |
| Mouse bait, 5.6 kg/ha | 10 | 4 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 180 | 73 |
| Fuel | 109 | 44 |
| O.A.M.C. fees | 99 | 40 |
| Bin rental | 297 | 120 |
| Custom bin hauling | 395 | 160 |
| Interest on operating capital | 99 | 40 |
| TOTAL | 3,672 | 1,486 |
| **FIXED COSTS** | | |
| Operator labour: | | |
| Harvesting, 19.8 hours/ha | 146 | 59 |
| Other, 34.6 hours/ha | 257 | 104 |
| Management allowance, 5% of gross income | 259 | 105 |
| Tractor and machine costs: | | |
| Depreciation | 294 | 119 |
| Interest on investment | 151 | 61 |
| Insurance and storage | 62 | 25 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 49 | 20 |
| TOTAL | 1,445 | 585 |
| **TOTAL ALL COSTS** | 5,117 | 2,071 |
| **COST PER UNIT** (based on yield of 18.8 tonne/ha and 400 bu./ac.) | $272/tonne | $5.18/bu. |
| **GROSS MARGIN ANALYSIS** (based on average prices of $276.02/tonne and $5.26/bu.)[a] | | |
| Gross income | 5,199 | 2,104 |
| Total variable costs | 3,672 | 1,486 |
| Gross margin | 1,527 | 618 |
| **CASH ANALYSIS** | | |
| Gross income | 5,199 | 2,104 |
| Cash costs[b] | 3,795 | 1,522 |
| Returns over cash costs | 1,404 | 582 |

[a] The 1988 price is an average of the previous three years for Ontario-grown apples.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $74/ha ($30/ac.) and other overhead costs.

Table 2.--Apples on Standard Trees: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning | a | 39.5 | 16.0 | 279.87 | 113.26 |
| Brush removal | a | 4.94 | 2.0 | 74.43 | 30.12 |
| Fertilizing | 2 | 2.47 | 1.0 | 44.85 | 18.15 |
| Mowing | 5 | 6.18 | 2.5 | 165.09 | 66.81 |
| Weed spraying | 2 | 4.94 | 2.0 | 99.93 | 40.44 |
| Pesticide spraying | 10 | 12.4 | 5.0 | 426.25 | 172.50 |
| Summer management | a | 12.4 | 5.0 | 91.43 | 37.00 |
| Applying mouse bait | 1 | 2.47 | 1.0 | 9.88 | 4.00 |
| Harvesting | a | 229.8 | 93.0 | 1,242.59 | 502.87 |
| Bin handling and supervision | a | 19.8 | 8.0 | 231.11 | 93.53 |

[a] Operation performed as required.

Table 3.--Apples on Size-Controlling Trees: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 205 hours/ha | 1,077 | 436 |
| Other, 90.2 hours/ha | 470 | 190 |
| Fertilizer: | | |
| Am.nitrate, 136 kg/ha | 30 | 12 |
| Mur. of Pot., 309 kg/ha | 59 | 24 |
| Insecticides | 309 | 125 |
| Fungicides | 291 | 118 |
| Herbicides | 121 | 49 |
| Other sprays | 193 | 78 |
| Bee rental | 44 | 18 |
| Mouse bait, 5.6 kg/ha | 10 | 4 |
| Replacement trees | 35 | 14 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 170 | 69 |
| Fuel | 101 | 41 |
| O.A.M.C. fees | 99 | 40 |
| Bin rental | 341 | 138 |
| Custom bin hauling | 455 | 184 |
| Interest on operating capital | 106 | 43 |
| TOTAL | 3,911 | 1,583 |
| **FIXED COSTS** | | |
| Operator labour: | | |
| Harvesting, 19.8 hours/ha | 146 | 59 |
| Other, 44.5 hours/ha | 329 | 133 |
| Management allowance, 5% of gross income | 299 | 121 |
| Tractor and machine costs: | | |
| Depreciation | 287 | 116 |
| Interest on investment | 146 | 59 |
| Insurance and storage | 59 | 24 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 49 | 20 |
| TOTAL | 1,542 | 624 |
| **TOTAL ALL COSTS** | 5,453 | 2,207 |
| **COST PER UNIT** (based on yield of 21.7 tonne/ha and 460 bu./ac.) | $251/tonne | $4.80/bu. |
| **GROSS MARGIN ANALYSIS** (based on average prices of $276.02/tonne and $5.26/bu.)[a] | | |
| Gross income | 5,979 | 2,420 |
| Total variable costs | 3,911 | 1,583 |
| Gross margin | 2,068 | 837 |
| **CASH ANALYSIS** | | |
| Gross income | 5,979 | 2,420 |
| Cash costs[b] | 4,031 | 1,632 |
| Returns over cash costs | 1,948 | 788 |

[a] The 1988 price is an average of the previous three years for Ontario-grown apples.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $71/ha ($29/ac.) and other overhead costs.

Table 4.--Apples on Size-Controlling Trees: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Replanting Trees..... | [a] | 2.47 | 1.0 | 39.96 | 16.17 |
| Pruning..... | [a] | 74.1 | 30.0 | 415.75 | 168.25 |
| Brush removal..... | [a] | 4.94 | 2.0 | 74.43 | 30.12 |
| Fertilizing..... | 2 | 2.47 | 1.0 | 44.85 | 18.15 |
| Mowing..... | 5 | 6.18 | 2.5 | 165.09 | 66.81 |
| Weed spraying..... | 2 | 4.94 | 2.0 | 99.93 | 40.44 |
| Pesticide spraying..... | 10 | 12.4 | 5.0 | 426.25 | 172.50 |
| Summer management..... | [a] | 24.7 | 10.0 | 156.29 | 63.25 |
| Applying mouse bait..... | 1 | 2.47 | 1.0 | 9.88 | 4.00 |
| Harvesting..... | [a] | 205.1 | 83.0 | 1,112.86 | 450.37 |
| Bin handling and supervision ..... | [a] | 19.8 | 8.0 | 243.25 | 98.44 |

[a] Operation performed as required.

Table 5.--Sour Cherries for Processing, Hand-Harvested: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 445 hours/ha | 2,056 | 832 |
| Grading, 59.3 hours/ha | 311 | 126 |
| Other 69.2 hours/ha | 356 | 144 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot., 334 kg/ha | 62 | 25 |
| Insecticides | 173 | 70 |
| Fungicides | 291 | 118 |
| Herbicides | 52 | 21 |
| Other sprays | 193 | 78 |
| Manure, 22.4 tonne/ha | 247 | 100 |
| Cover crop seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 227 | 92 |
| Fuel | 235 | 95 |
| Building, repairs and electricity | 45 | 18 |
| Marketing board fees | 168 | 68 |
| Interest on operating capital | 166 | 67 |
| TOTAL | 4,643 | 1,879 |
| **FIXED COSTS** | | |
| Operator labour, 69.2 hours/ha | 511 | 207 |
| Management allowance, 5% of gross income | 339 | 137 |
| Tractor and machine costs: | | |
| Depreciation | 447 | 181 |
| Interest on investment | 215 | 87 |
| Insurance and housing | 111 | 45 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 3,054 | 1,236 |
| **TOTAL ALL COSTS** | 7,697 | 3,115 |
| **COST PER UNIT** (based on yield of 8.97 tonne/ha and 4 ton/acre) | $858/tonne | $779/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $756.07/tonne and $685.90/ton)[a] | | |
| Gross income | 6,780 | 2,744 |
| Total variable costs | 4,643 | 1,879 |
| Gross margin | 2,137 | 865 |
| **CASH ANALYSIS** | | |
| Gross income | 6,780 | 2,744 |
| Cash costs[b] | 4,848 | 1,962 |
| Returns over cash costs | 1,932 | 782 |

[a] The price is the 1988 payment for a quality rating of either 95 or 96%.
[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $106/ha ($43/ac.) and other overhead costs.

Table 6.--Sour Cherries for Processing, Hand-Harvested: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 74.1 | 30.0 | 695.10 | 281.30 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 6 | 7.41 | 3.0 | 118.76 | 48.06 |
| Mowing..... | 2 | 2.47 | 1.0 | 66.05 | 26.73 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 7 | 6.18 | 2.5 | 213.10 | 86.24 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers ..... | [a] | 19.8 | 8.0 | 281.97 | 114.11 |
| Picking..... | [a] | 445 | 180.0 | 2,087.18 | 844.67 |
| Sorting and grading..... | [a] | 59.3 | 24.0 | 347.87 | 140.78 |
| Marketing-delivery..... | [a] | 14.8 | 6.0 | 411.72 | 166.62 |

[a] Operation performed as required.

Table 7.--Sour Cherries for Processing, Machine-Harvested: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour, 49.4 hours/ha | 255 | 103 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot., 334 kg/ha | 62 | 25 |
| Insecticides | 173 | 70 |
| Fungicides | 291 | 118 |
| Herbicides | 52 | 21 |
| Other sprays | 193 | 78 |
| Manure, 22.4 tonne/ha | 247 | 100 |
| Cover crop seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 138 | 56 |
| Fuel | 121 | 49 |
| Custom harvesting, cooling, delivery | 1,977 | 800 |
| Marketing board fees | 168 | 68 |
| Interest on operating capital | 141 | 57 |
| TOTAL | 3,879 | 1,570 |
| **FIXED COSTS** | | |
| Operator labour, 54.4 hours/ha | 403 | 163 |
| Management allowance, 5% of gross income | 339 | 137 |
| Tractor and machine costs: | | |
| Depreciation | 247 | 100 |
| Interest on investment | 131 | 53 |
| Insurance and housing | 52 | 21 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 2,405 | 973 |
| **TOTAL ALL COSTS** | 6,284 | 2,543 |
| **COST PER UNIT** (based on assumed yield of 8.97 tonne/ha and 4 ton/acre) | $701/tonne | $636/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $756.07/tonne and $685.90/ton)[a] | | |
| Gross income | 6,780 | 2,744 |
| Total variable costs | 3,879 | 1,570 |
| Gross margin | 2,901 | 1,174 |
| **CASH ANALYSIS** | | |
| Gross income | 6,780 | 2,744 |
| Cash costs[b] | 4,042 | 1,636 |
| Returns over cash costs | 2,738 | 1,108 |

[a] The price is the 1988 payment for a quality rating of either 95 or 96%.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $64/ha ($26/ac.) and other overhead costs.

Table 8.--Sour Cherries for Processing, Machine-Harvested: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 74.1 | 30.0 | 695.10 | 281.30 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 6 | 7.41 | 3.0 | 118.76 | 48.06 |
| Mowing..... | 2 | 2.47 | 1.0 | 66.05 | 26.73 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 7 | 6.18 | 2.5 | 213.10 | 86.24 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |

[a] Operation performed as required.

Table 9.--Sweet Cherries for Fresh Market:
Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Picking, 247 hours/ha | 1,107 | 448 |
| Grading, 124 hours/ha | 647 | 262 |
| Other, 45.7 hours/ha | 235 | 95 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot., 334 kg/ha | 62 | 25 |
| Insecticides | 296 | 120 |
| Fungicides | 309 | 125 |
| Herbicides | 52 | 21 |
| Manure, 22.4 tonne/ha | 247 | 100 |
| Cover crop seed | 12 | 5 |
| Containers | 892 | 361 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 210 | 85 |
| Fuel | 173 | 70 |
| Building, repairs and electricity | 52 | 21 |
| Interest on operating capital | 161 | 65 |
| TOTAL | 4,504 | 1,823 |
| **FIXED COSTS** | | |
| Operator labour, 53.1 hours/ha | 393 | 159 |
| Management allowance, 5% of gross income | 420 | 170 |
| Tractor and machine costs: | | |
| Depreciation | 393 | 159 |
| Interest on investment | 195 | 79 |
| Insurance and housing | 94 | 38 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 2,926 | 1,184 |
| **TOTAL ALL COSTS** | 7,430 | 3,007 |
| **COST PER UNIT** (based on assumed yield of 4.48 tonne/ha and 2 ton/acre) | $1,658/tonne | $1,504/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $1,875.01/tonne and $16.20/3x4 L master)[a] | | |
| Gross income | 8,407 | 3,402 |
| Total variable costs | 4,504 | 1,823 |
| Gross margin | 3,903 | 1,579 |
| **CASH ANALYSIS** | | |
| Gross income | 8,407 | 3,402 |
| Cash costs[b] | 4,698 | 1,902 |
| Returns over cash costs | 3,709 | 1,500 |

[a] The 1988 price is an average of the previous three years for sweet cherries sold through the Central Fruit Exchange.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $95/ha ($39/ac.) and other overhead costs.

Table 10.--Sweet Cherries for Fresh Market:
Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 47.0 | 19.0 | 435.72 | 176.33 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Mowing..... | 3 | 3.71 | 1.5 | 99.04 | 40.08 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 8 | 9.88 | 4.0 | 341.00 | 138.00 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers | [a] | 9.88 | 4.0 | 143.39 | 58.03 |
| Picking..... | [a] | 247 | 100.0 | 1,138.32 | 460.67 |
| Sorting and grading..... | [a] | 124 | 50.0 | 685.16 | 277.28 |
| Marketing-delivery..... | [a] | 9.88 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 11.--Sweet Cherries for Canning and Freezing Purposes: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Picking, 222 hours/ha | 1,028 | 416 |
| Grading, 124 hours/ha | 647 | 262 |
| Other, 45.7 hours/ha | 235 | 95 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot., 334 kg/ha | 62 | 25 |
| Insecticides | 296 | 120 |
| Fungicides | 309 | 125 |
| Herbicides | 52 | 21 |
| Manure, 22.4 tonne/ha | 247 | 100 |
| Cover crop seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 210 | 85 |
| Fuel | 173 | 70 |
| Building, repairs and electricity | 35 | 14 |
| Marketing board fees | 54 | 22 |
| Interest on operating capital | 126 | 51 |
| TOTAL | 3,535 | 1,431 |
| **FIXED COSTS** | | |
| Operator labour, 53.1 hours/ha | 393 | 159 |
| Management allowance, 5% of gross income | 316 | 128 |
| Tractor and machine costs: | | |
| Depreciation | 393 | 159 |
| Interest on investment | 195 | 79 |
| Insurance and housing | 94 | 38 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 2,822 | 1,142 |
| **TOTAL ALL COSTS** | 6,357 | 2,573 |
| **COST PER UNIT** (based on assumed yield of 4.48 tonne/ha and 2 ton/acre) | $1,419/tonne | $1,286/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $1,412.60/tonne and $1,281.50/ton)[a] | | |
| Gross income | 6,333 | 2,563 |
| Total variable costs | 3,535 | 1,431 |
| Gross margin | 2,798 | 1,132 |
| **CASH ANALYSIS** | | |
| Gross income | 6,333 | 2,563 |
| Cash costs[b] | 3,729 | 1,510 |
| Returns over cash costs | 2,604 | 1,053 |

[a] The 1988 price is the 1988 payment for sweet cherries sold through the Ontario Tender Fruit Producers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $95/ha ($39/ac.) and other overhead costs.

Table 12.--Sweet Cherries for Canning and Freezing Purposes: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 47.0 | 19.0 | 435.72 | 176.33 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Mowing..... | 3 | 3.71 | 1.5 | 99.04 | 40.08 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 8 | 9.88 | 4.0 | 341.00 | 138.00 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers..... | [a] | 9.88 | 4.0 | 143.39 | 58.03 |
| Picking..... | [a] | 222 | 90.0 | 1,059.24 | 428.67 |
| Sorting and grading..... | [a] | 124 | 50.0 | 685.16 | 277.28 |
| Marketing-delivery..... | [a] | 9.88 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 13.--Sweet Cherries for Maraschino Purposes: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Picking, 247 hours/ha | 1,107 | 448 |
| Grading, 124 hours/ha | 647 | 262 |
| Other, 45.7 hours/ha | 235 | 95 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot., 334 kg/ha | 62 | 25 |
| Insecticides | 296 | 120 |
| Fungicides | 309 | 125 |
| Herbicides | 52 | 21 |
| Manure, 22.4 tonne/ha | 247 | 100 |
| Cover crop seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 210 | 85 |
| Fuel | 173 | 70 |
| Building, repairs and electricity | 35 | 14 |
| Marketing board fees | 54 | 22 |
| Interest on operating capital | 128 | 52 |
| TOTAL | 3,616 | 1,464 |
| **FIXED COSTS** | | |
| Operator labour, 53.1 hours/ha | 393 | 159 |
| Management allowance, 5% of gross income | 178 | 72 |
| Tractor and machine costs: | | |
| Depreciation | 393 | 159 |
| Interest on investment | 195 | 79 |
| Insurance and storage | 94 | 38 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 2,684 | 1,086 |
| **TOTAL ALL COSTS** | 6,300 | 2,550 |
| **COST PER UNIT** (based on assumed yield of 4.48 tonne/ha and 2 ton/acre) | $1,406/tonne | $1,275/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $795.31/tonne and $721.50/ton)[a] | | |
| Gross income | 3,566 | 1,443 |
| Total variable costs | 3,616 | 1,464 |
| Gross margin | -50 | -21 |
| **CASH ANALYSIS** | | |
| Gross income | 3,566 | 1,443 |
| Cash costs[b] | 3,810 | 1,543 |
| Returns over cash costs | -244 | -100 |

[a] The price is the 1988 payment for sweet cherries sold through the Ontario Tender Fruit Producers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $95/ha ($39/ac.) and other overhead costs.

Table 14.--Sweet Cherries for Maraschino Purposes: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 47.0 | 19.0 | 435.72 | 176.33 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Mowing..... | 3 | 3.71 | 1.5 | 99.04 | 40.08 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 8 | 9.88 | 4.0 | 341.00 | 138.00 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers..... | [a] | 9.88 | 4.0 | 143.39 | 58.03 |
| Picking..... | [a] | 247 | 100.0 | 1,138.32 | 460.67 |
| Sorting and grading..... | [a] | 124 | 50.0 | 685.16 | 277.28 |
| Marketing-delivery..... | [a] | 9.88 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 15.--Concord Grapes for Processing:
Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Hired labour, 128 hours/ha | 620 | 251 |
| Fertilizer: | | |
| Am.nitrate, 170 kg/ha | 40 | 16 |
| 15-15-15 100 kg/ha | 22 | 9 |
| Insecticides | 77 | 31 |
| Fungicides | 124 | 50 |
| Herbicides | 52 | 21 |
| Cover crop seed | 12 | 5 |
| Tying material | 15 | 6 |
| Trellis maintenance | 91 | 37 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 74 | 30 |
| Fuel | 57 | 23 |
| Custom harvest and delivery | 435 | 176 |
| Marketing board fees | 64 | 26 |
| Interest on operating capital | 94 | 38 |
| TOTAL | 1,777 | 719 |
| FIXED COSTS | | |
| Operator labour, 32.1 hours/ha | 237 | 96 |
| Management allowance, 5% of gross income | 109 | 44 |
| Tractor and machine costs: | | |
| Depreciation | 163 | 66 |
| Interest on investment | 82 | 33 |
| Insurance and storage | 35 | 14 |
| Interest on land, $11,120/ha @ 5.1% per annum | 568 | 230 |
| Other overhead | 49 | 20 |
| TOTAL | 1,243 | 503 |
| TOTAL ALL COSTS | 3,020 | 1,222 |
| COST PER UNIT (based on average yield of 7.17 tonne/ha and 3.2 ton/acre) | $421/tonne | $382/ton |
| GROSS MARGIN ANALYSIS (based on average prices of $299.83/tonne and $272.00/ton)[a] | | |
| Gross income | 2,151 | 870 |
| Total variable costs | 1,777 | 719 |
| Gross margin | 374 | 151 |
| CASH ANALYSIS | | |
| Gross income | 2,151 | 870 |
| Cash costs[b] | 1,866 | 755 |
| Returns over cash costs | 285 | 115 |

[a] The 1988 price is an average of the previous three years for Concord grapes sold through the Ontario Grape Growers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $40/ha ($16/ac.) and other overhead costs.

Table 16.--Concord Grapes for Processing: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning | 1 | 61.8 | 25.0 | 318.76 | 129.00 |
| Brush removal | 1 | 2.47 | 1.0 | 37.21 | 15.06 |
| Tying | 1 | 39.5 | 16.0 | 185.32 | 75.00 |
| Fertilizing | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Discing | 2 | 2.47 | 1.0 | 39.59 | 16.02 |
| Rotovating | 2 | 2.47 | 1.0 | 44.58 | 18.04 |
| Weed spraying | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Pesticide spraying | 4 | 4.94 | 2.0 | 170.50 | 69.00 |
| Sowing cover crop | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| Summer pruning and suckering | [a] | 24.7 | 10.0 | 129.73 | 52.50 |
| Ditching and grading | [a] | 4.94 | 2.0 | 88.71 | 35.90 |
| Vineyard maintenance | [a] | 9.88 | 4.0 | 141.54 | 57.28 |

[a] Operation performed as required.

Table 17.--DeChaunac Grapes for Processing: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour, 146 hours/ha | 689 | 279 |
| Fertilizer: | | |
| Am.nitrate, 170 kg/ha | 40 | 16 |
| 15-15-15 100 kg/ha | 22 | 9 |
| Insecticides | 153 | 62 |
| Fungicides | 393 | 159 |
| Herbicides | 52 | 21 |
| Cover crop seed | 12 | 5 |
| Tying material | 17 | 7 |
| Trellis maintenance | 104 | 42 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 119 | 48 |
| Fuel | 72 | 29 |
| Custom harvest and delivery | 531 | 215 |
| Marketing board fees | 77 | 31 |
| Interest on operating capital | 128 | 52 |
| TOTAL | 2,409 | 975 |
| **FIXED COSTS** | | |
| Operator labour, 43.2 hours/ha | 321 | 130 |
| Management allowance, 5% of gross income | 161 | 65 |
| Tractor and machine costs: | | |
| Depreciation | 222 | 90 |
| Interest on investment | 116 | 47 |
| Insurance and storage | 47 | 19 |
| Interest on land, $11,120/ha @ 5.1% per annum | 568 | 230 |
| Other overhead | 49 | 20 |
| TOTAL | 1,484 | 601 |
| **TOTAL ALL COSTS** | 3,893 | 1,576 |
| **COST PER UNIT** (based on average yield of 8.74 tonne/ha and 3.9 ton/acre) | $445/tonne | $404/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $364.86/tonne and $331.00/ton)[a] | | |
| Gross income | 3,190 | 1,291 |
| Total variable costs | 2,409 | 975 |
| Gross margin | 781 | 316 |
| **CASH ANALYSIS** | | |
| Gross income | 3,190 | 1,291 |
| Cash costs[b] | 2,515 | 1,018 |
| Returns over cash costs | 675 | 273 |

[a] The 1988 price is an average of the previous three years for DeChaunac grapes sold through the Ontario Grape Growers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $57/ha ($23/ac.) and other overhead costs.

**Table 18.--DeChaunac Grapes for Processing: Operation Costs, Ontario, 1988**

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning | 1 | 74.1 | 30.0 | 382.51 | 154.80 |
| Brush removal | 1 | 2.47 | 1.0 | 37.21 | 15.06 |
| Tying | 1 | 49.4 | 20.0 | 222.39 | 90.00 |
| Fertilizing | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Discing | 2 | 2.47 | 1.0 | 39.59 | 16.02 |
| Rotovating | 2 | 2.47 | 1.0 | 44.58 | 18.04 |
| Weed spraying | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Pesticide spraying | 9 | 11.1 | 4.5 | 383.60 | 155.24 |
| Sowing cover crop | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Summer pruning and suckering | [a] | 24.7 | 10.0 | 129.73 | 52.50 |
| Ditching and grading | [a] | 4.94 | 2.0 | 88.71 | 35.90 |
| Vineyard maintenance | [a] | 9.88 | 4.0 | 141.54 | 57.28 |

[a] Operation performed as required.

Table 19.--Clingstone Peaches (108 trees/acre) for Processing: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 173 hours/ha | 909 | 368 |
| Grading, 39.5 hours/ha | 208 | 84 |
| Other, 198 hours/ha | 1,028 | 416 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 432 | 175 |
| Fungicides | 531 | 215 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Replacement trees, 12/ha | 69 | 28 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 227 | 92 |
| Fuel | 200 | 81 |
| Building, repairs and electricity | 35 | 14 |
| Marketing board fees | 136 | 55 |
| Interest on operating capital | 151 | 61 |
| TOTAL | 4,213 | 1,705 |
| **FIXED COSTS** | | |
| Operator labour, 60.5 hours/ha | 447 | 181 |
| Management allowance, 5% of gross income | 287 | 116 |
| Tractor and machine costs: | | |
| Depreciation | 442 | 179 |
| Interest on investment | 220 | 89 |
| Insurance and storage | 101 | 41 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 2,928 | 1,185 |
| **TOTAL ALL COSTS** | 7,141 | 2,890 |
| **COST PER UNIT** (based on assumed yield of 11.2 tonne/h and 5 ton/acre) | $638/tonne | $578/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $513.12/tonne and $465.50/ton)[a] | | |
| Gross income | 5,751 | 2,328 |
| Total variable costs | 4,213 | 1,705 |
| Gross margin | 1,538 | 623 |
| **CASH ANALYSIS** | | |
| Gross income | 5,751 | 2,328 |
| Cash costs[b] | 4,419 | 1,788 |
| Returns over cash costs | 1,332 | 540 |

[a] The 1988 price is an average of the previous three years for Clingstone peaches sold through the Ontario Tender Fruit Producers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $107/ha ($43/ac.) and other overhead costs.

Table 20.--Clingstone Peaches (108 trees/acre) for Processing: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Planting replacement trees | a | 2.47 | 1.0 | 18.29 | 7.40 |
| Pruning and brush removal. | 1 | 98.9 | 40.0 | 725.78 | 293.72 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 10 | 9.9 | 4.0 | 341.00 | 138.00 |
| Hand thinning..... | 1 | 89.0 | 36.0 | 467.02 | 189.00 |
| Mowing..... | 4 | 4.94 | 2.0 | 132.10 | 53.46 |
| General maintenance..... | a | 7.41 | 3.0 | 95.33 | 38.58 |
| Distribution and collection of containers..... | a | 24.7 | 10.0 | 351.25 | 142.15 |
| Picking..... | a | 173.0 | 70.0 | 939.40 | 380.17 |
| Grading..... | a | 39.5 | 16.0 | 244.09 | 98.78 |
| Marketing-delivery..... | a | 7.41 | 3.0 | 205.86 | 83.31 |

[a] Operation performed as required.

Table 21.--Clingstone Peaches (145 trees/acre) for Processing: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 242 hours/ha | 1,270 | 514 |
| Grading, 49.4 hours/ha | 259 | 105 |
| Other, 262 hours/ha | 1,364 | 552 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 432 | 175 |
| Fungicides | 531 | 215 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Replacement trees, 17/ha | 96 | 39 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 262 | 106 |
| Fuel | 252 | 102 |
| Building, repairs and electricity | 35 | 14 |
| Marketing board fees | 190 | 77 |
| Interest on operating capital | 185 | 75 |
| TOTAL | 5,163 | 2,090 |
| **FIXED COSTS** | | |
| Operator labour, 72.9 hours/ha | 539 | 218 |
| Management allowance, 5% of gross income | 403 | 163 |
| Tractor and machine costs: | | |
| Depreciation | 514 | 208 |
| Interest on investment | 250 | 101 |
| Insurance and storage | 119 | 48 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 3,256 | 1,317 |
| **TOTAL ALL COSTS** | 8,419 | 3,407 |
| **COST PER UNIT** (based on assumed yield of 15.7 tonne/h and 7.0 ton/acre) | $536/tonne | $487/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $513.12/tonne and $465.50/ton)[a] | | |
| Gross income | 8,052 | 3,259 |
| Total variable costs | 5,163 | 2,090 |
| Gross margin | 2,889 | 1,169 |
| **CASH ANALYSIS** | | |
| Gross income | 8,052 | 3,259 |
| Cash costs[b] | 5,385 | 2,180 |
| Returns over cash costs | 2,667 | 1,079 |

[a] The 1988 price is an average of the previous three years for Clingstone peaches sold through the Ontario Tender Fruit Producers' Marketing Board.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $123/ha ($50/ac.) and other overhead costs.

Table 22.--Clingstone Peaches (145 trees/acre) for Processing: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Planting replacement trees | a | 2.47 | 1.0 | 18.29 | 7.40 |
| Pruning and brush removal. | 1 | 133 | 54.0 | 996.06 | 403.10 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 10 | 9.9 | 4.0 | 341.00 | 138.00 |
| Hand thinning..... | 1 | 119 | 48.0 | 622.69 | 252.00 |
| Mowing..... | 4 | 4.94 | 2.0 | 132.10 | 53.46 |
| General maintenance..... | a | 7.41 | 3.0 | 95.33 | 38.58 |
| Distribution and collection of containers..... | a | 34.6 | 14.0 | 489.83 | 198.23 |
| Picking..... | a | 242 | 98.0 | 1,302.64 | 527.17 |
| Grading..... | a | 49.4 | 20.0 | 295.98 | 119.78 |
| Marketing-delivery..... | a | 9.88 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 23.--Freestone Peaches (108 trees/acre) for Fresh Market: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 222 hours/ha | 1,169 | 473 |
| Grading, 79.1 hours/ha | 415 | 168 |
| Other, 198 hours/ha | 1,028 | 416 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 432 | 175 |
| Fungicides | 531 | 215 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Replacement trees, 12/ha | 69 | 28 |
| Containers | 2,255 | 913 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 245 | 99 |
| Fuel | 222 | 90 |
| Building, repairs and electricity | 59 | 24 |
| Interest on operating capital | 250 | 101 |
| TOTAL | 6,962 | 2,818 |
| **FIXED COSTS** | | |
| Operator labour, 65.5 hours/ha | 484 | 196 |
| Management allowance, 5% of gross income | 494 | 200 |
| Tractor and machine costs: | | |
| Depreciation | 477 | 193 |
| Interest on investment | 232 | 94 |
| Insurance and storage | 116 | 47 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 3,234 | 1,309 |
| **TOTAL ALL COSTS** | 10,196 | 4,127 |
| **COST PER UNIT** (based on assumed yield of 11.2 tonne/h and 5 ton/acre) | $910/tonne | $825/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $881.84/tonne and $8.00/3x4 L master)[a] | | |
| Gross income | 9,884 | 4,000 |
| Total variable costs | 6,962 | 2,818 |
| Gross margin | 2,922 | 1,182 |
| **CASH ANALYSIS** | | |
| Gross income | 9,884 | 4,000 |
| Cash costs[b] | 7,175 | 2,904 |
| Returns over cash costs | 2,709 | 1,096 |

[a] The 1988 price is an average of the previous three years for peaches sold through the Central Fruit Exchange.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $114/ha ($46/ac.) and other overhead costs.

Table 24.--Freestone Peaches (108 trees/acre) for Fresh Market: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Planting replacement trees | a | 2.47 | 1.0 | 18.29 | 7.40 |
| Pruning and brush removal. | 1 | 98.9 | 40.0 | 725.78 | 293.72 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 10 | 9.9 | 4.0 | 341.00 | 138.00 |
| Hand thinning..... | 1 | 89.0 | 36.0 | 467.02 | 189.00 |
| Mowing..... | 4 | 4.94 | 2.0 | 132.10 | 53.46 |
| General maintenance..... | a | 2.47 | 3.0 | 95.33 | 38.58 |
| Distribution and collection of containers..... | a | 24.7 | 10.0 | 351.25 | 142.15 |
| Picking..... | a | 222 | 90.0 | 1,198.86 | 485.17 |
| Grading and packing..... | a | 79.1 | 32.0 | 451.65 | 182.78 |
| Marketing-delivery..... | a | 12.4 | 5.0 | 343.10 | 138.85 |

[a] Operation performed as required.

Table 25.--Freestone Peaches (145 trees/acre) for Fresh Market: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 311 hours/ha | 1,816 | 735 |
| Grading, 99 hours/ha | 519 | 210 |
| Other, 262 hours/ha | 1,181 | 478 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 432 | 175 |
| Fungicides | 531 | 215 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Replacement trees, 17/ha | 96 | 39 |
| Containers | 3,157 | 1,278 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 269 | 109 |
| Fuel | 264 | 107 |
| Building, repairs and electricity | 60 | 24 |
| Interest on operating capital | 319 | 129 |
| TOTAL | 8,931 | 3,615 |
| **FIXED COSTS** | | |
| Operator labour, 75 hours/ha | 558 | 226 |
| Management allowance, 5% of gross income | 692 | 280 |
| Tractor and machine costs: | | |
| Depreciation | 531 | 215 |
| Interest on investment | 257 | 104 |
| Insurance and storage | 126 | 51 |
| Building use | 198 | 80 |
| Interest on land, $22,240/ha @ 5.1% per annum | 1,134 | 459 |
| Other overhead | 99 | 40 |
| TOTAL | 3,595 | 1,455 |
| **TOTAL ALL COSTS** | 12,526 | 5,070 |
| **COST PER UNIT** (based on assumed yield of 15.7 tonne/h and 7 ton/acre) | $798/tonne | $724/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $881.84/tonne and $8.00/3x4 L master)[a] | | |
| Gross income | 13,838 | 5,600 |
| Total variable costs | 8,931 | 3,615 |
| Gross margin | 4,907 | 1,985 |
| **CASH ANALYSIS** | | |
| Gross income | 13,838 | 5,600 |
| Cash costs[b] | 9,156 | 3,706 |
| Returns over cash costs | 4,682 | 1,894 |

[a] The 1988 price is an average of the previous three years for peaches sold through the Central Fruit Exchange.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $126/ha ($51/ac.) and other overhead costs.

Table 26.--Freestone Peaches (145 trees/acre) for Fresh Market: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Planting replacement trees | a | 2.47 | 1.0 | 18.29 | 7.40 |
| Pruning and brush removal. | 1 | 133 | 54.0 | 996.06 | 403.10 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Spreading manure..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 10 | 9.88 | 4.0 | 341.00 | 138.00 |
| Hand thinning..... | 1 | 119. | 48.0 | 622.69 | 252.00 |
| Mowing..... | 4 | 4.94 | 2.0 | 132.10 | 53.46 |
| General maintenance..... | a | 2.47 | 3.0 | 95.33 | 38.58 |
| Distribution and collection of containers..... | a | 34.6 | 14.0 | 489.83 | 198.23 |
| Picking..... | a | 311. | 126. | 1,665.87 | 674.17 |
| Grading and packing..... | a | 98.8 | 40.0 | 555.43 | 224.78 |
| Marketing-delivery..... | a | 12.4 | 5.0 | 343.10 | 138.85 |

[a] Operation performed as required.

Table 27.--Bartlett Pears for Fresh Market: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 98.8 hours/ha | 388 | 157 |
| Grading, 29.7 hours/ha | 156 | 63 |
| Other, 69.2 hours/ha | 353 | 143 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 477 | 193 |
| Fungicides | 47 | 19 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Cover crop seed | 12 | 5 |
| Containers | 1,529 | 619 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 198 | 80 |
| Fuel | 203 | 82 |
| Building, repairs and electricity | 67 | 27 |
| Interest on operating capital | 136 | 55 |
| TOTAL | 3,853 | 1,559 |
| **FIXED COSTS** | | |
| Operator labour, 63.0 hours/ha | 467 | 189 |
| Management allowance, 5% of gross income | 346 | 140 |
| Tractor and machine costs: | | |
| Depreciation | 390 | 158 |
| Interest on investment | 190 | 77 |
| Insurance and storage | 94 | 38 |
| Building use | 198 | 80 |
| Interest on land, $11,120/ha @ 5.1% per annum | 568 | 230 |
| Other overhead | 99 | 40 |
| TOTAL | 2,352 | 952 |
| **TOTAL ALL COSTS** | 6,205 | 2,511 |
| **COST PER UNIT** (based on assumed yield of 8.97 tonne/h and 4 ton/acre) | $692/tonne | $628/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $773.81/tonne and $7.80/3x4 L master)[a] | | |
| Gross income | 6,939 | 2,808 |
| Total variable costs | 3,853 | 1,559 |
| Gross margin | 3,086 | 1,249 |
| **CASH ANALYSIS** | | |
| Gross income | 6,939 | 2,808 |
| Cash costs[b] | 4,046 | 1,637 |
| Returns over cash costs | 2,893 | 1,171 |

[a] The 1988 price is an average of the previous three years for Bartlett pears sold through the Central Fruit Exchange.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $94/ha ($38/ac.) and other overhead costs.

Table 28.--Bartlett Pears for Fresh Market:
Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 76.6 | 31.0 | 704.98 | 285.30 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Mowing..... | 2 | 2.47 | 1.0 | 66.05 | 26.73 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 6 | 4.94 | 2.0 | 170.50 | 69.00 |
| Manure spreading..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers..... | [a] | 19.8 | 8.0 | 281.97 | 114.11 |
| Picking..... | [a] | 98.9 | 40.0 | 418.76 | 169.47 |
| Sorting and grading..... | [a] | 29.7 | 12.0 | 192.19 | 77.78 |
| Marketing-delivery..... | [a] | 9.9 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 29.--Bartlett Pears for Processing:
Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Harvesting, 98.8 hours/ha | 388 | 157 |
| Grading, 29.7 hours/ha | 156 | 63 |
| Other, 69.2 hours/ha | 353 | 143 |
| Fertilizer: | | |
| Am.nitrate, 222 kg/ha | 49 | 20 |
| Mur. of Pot. 334 kg/ha | 62 | 25 |
| Insecticides | 477 | 193 |
| Fungicides | 47 | 19 |
| Herbicides | 52 | 21 |
| Manure, 11.2 tonne/ha | 124 | 50 |
| Cover crop seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 198 | 80 |
| Fuel | 203 | 82 |
| Building, repairs and electricity | 35 | 14 |
| Marketing board fees | 109 | 44 |
| Interest on operating capital | 84 | 34 |
| TOTAL | 2,349 | 950 |
| **FIXED COSTS** | | |
| Operator labour, 63.0 hours/ha | 467 | 189 |
| Management allowance, 5% of gross income | 173 | 70 |
| Tractor and machine costs: | | |
| Depreciation | 390 | 158 |
| Interest on investment | 190 | 77 |
| Insurance and storage | 94 | 38 |
| Building use | 198 | 80 |
| Interest on land, $11,120/ha @ 5.1% per annum | 568 | 230 |
| Other overhead | 99 | 40 |
| TOTAL | 2,179 | 882 |
| **TOTAL ALL COSTS** | 4,528 | 1,832 |
| **COST PER UNIT** (based on assumed yield of 8.97 tonne/h and 4 ton/acre) | $505/tonne | $458/ton |
| **GROSS MARGIN ANALYSIS** (based on average prices of $384.64/tonne and $348.94/ton)[a] | | |
| Gross income | 3,449 | 1,396 |
| Total variable costs | 2,349 | 950 |
| Gross margin | 1,100 | 446 |
| **CASH ANALYSIS** | | |
| Gross income | 3,449 | 1,396 |
| Cash costs[b] | 2,542 | 1,028 |
| Returns over cash costs | 907 | 368 |

[a] The 1988 price is an average of the previous three years based on a weighted average of 90% No. 1 and 10% No. 2 Bartlett pears.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $94/ha ($38/ac.) and other overhead costs.

Table 30.--Bartlett Pears for Processing: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Pruning and brush removal. | 1 | 76.6 | 31.0 | 704.98 | 285.30 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 34.22 | 13.85 |
| Cultivation..... | 4 | 4.94 | 2.0 | 79.17 | 32.04 |
| Mowing..... | 2 | 2.47 | 1.0 | 66.05 | 26.73 |
| Weed spraying..... | 1 | 2.47 | 1.0 | 49.96 | 20.22 |
| Spraying..... | 6 | 4.94 | 2.0 | 170.50 | 69.00 |
| Manure spreading..... | 1 | 3.71 | 1.5 | 100.33 | 40.60 |
| Sow cover crop..... | 1 | 2.47 | 1.0 | 28.91 | 11.70 |
| General maintenance..... | [a] | 2.47 | 1.0 | 38.97 | 15.77 |
| Distribution and collection of containers..... | [a] | 19.8 | 8.0 | 281.97 | 114.11 |
| Picking..... | [a] | 98.9 | 40.0 | 418.76 | 169.47 |
| Sorting and grading..... | [a] | 29.7 | 12.0 | 192.19 | 77.78 |
| Marketing-delivery..... | [a] | 9.9 | 4.0 | 274.48 | 111.08 |

[a] Operation performed as required.

Table 31.--Strawberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Fertilizer: | | |
| 10-20-20 200 kg/ha | 49 | 20 |
| Herbicides | 69 | 28 |
| Green manure seed | 12 | 5 |
| Fumigant | 455 | 184 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 25 | 10 |
| Fuel | 27 | 11 |
| Custom application, fumigant | 37 | 15 |
| Interest on operating capital | 114 | 46 |
| TOTAL | 788 | 319 |
| FIXED COSTS | | |
| Operator labour, 11.1 hours/ha | 82 | 33 |
| Tractor and machine costs: | | |
| Depreciation | 69 | 28 |
| Interest on investment | 32 | 13 |
| Insurance and storage | 15 | 6 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| TOTAL | 425 | 172 |
| TOTAL "PREPLANT YEAR" COSTS | 1,213 | 491 |

Table 32.--Strawberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Plowing | 2 | 4.94 | 2.0 | 116.38 | 47.10 |
| Discing | 1 | 1.24 | .5 | 24.83 | 10.05 |
| Seeding green manure | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Fertilizing | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Weed spraying | 1 | 2.47 | 1.0 | 54.81 | 22.18 |

Table 33.--Strawberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Hired labour, 168 hours/ha | 882 | 357 |
| Fertilizer: | | |
| Am. nitrate, 80 kg/ha | 17 | 7 |
| 10-20-20 400 kg/ha | 101 | 41 |
| Plant starter, 8 kg/ha | 17 | 7 |
| Insecticides | 57 | 23 |
| Fungicides | 37 | 15 |
| Herbicides | 158 | 64 |
| Manure, 45 tonne/ha | 494 | 200 |
| Plants, 12,355/ha | 618 | 250 |
| Straw, 7.4 tonne/ha | 445 | 180 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 119 | 48 |
| Fuel | 119 | 48 |
| Interest on operating capital | 343 | 139 |
| TOTAL | 3,407 | 1,379 |
| FIXED COSTS | | |
| Operator labour, 38.3 hours/ha | 284 | 115 |
| Tractor and machine costs: | | |
| Depreciation | 381 | 154 |
| Interest on investment | 185 | 75 |
| Insurance and storage | 79 | 32 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead costs | 247 | 100 |
| TOTAL | 1,403 | 568 |
| TOTAL "PLANTING YEAR" COSTS | 4,810 | 1,947 |

Table 34.--Strawberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Spreading manure..... | 1 | 4.94 | 2.0 | 180.58 | 73.08 |
| Plowing..... | 1 | 2.47 | 1.0 | 58.19 | 23.55 |
| Discing and harrowing..... | 1 | 1.24 | .5 | 26.91 | 10.89 |
| Planting..... | 1 | 49.4 | 20.0 | 526.58 | 213.10 |
| Fertilizing..... | 2 | 3.71 | 1.5 | 76.94 | 31.14 |
| Handweeding, training, etc | 1 | 103.8 | 42.0 | 544.86 | 220.50 |
| Weed spraying..... | 2 | 4.94 | 2.0 | 109.61 | 44.36 |
| Pesticide spraying..... | 3 | 7.41 | 3.0 | 155.60 | 62.97 |
| Cultivating..... | 3 | 7.41 | 3.0 | 131.80 | 53.34 |
| Mulching..... | 1 | 21.0 | 8.5 | 235.50 | 95.30 |

Table 35.--Strawberry Renovation Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Hired labour, 64.2 hours/ha | 339 | 137 |
| Fertilizer: | | |
| Am. nitrate, 100 kg/ha | 22 | 9 |
| 10-20-20 500 kg/ha | 124 | 50 |
| Herbicides | 62 | 25 |
| Straw, 7.4 tonne/ha | 445 | 180 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 59 | 24 |
| Fuel | 59 | 24 |
| Interest on operating capital | 104 | 42 |
| TOTAL | 1,214 | 491 |
| FIXED COSTS | | |
| Operator labour, 12.4 hours/ha | 91 | 37 |
| Tractor and machine costs: | | |
| Depreciation | 163 | 66 |
| Interest on investment | 77 | 31 |
| Insurance and storage | 35 | 14 |
| TOTAL | 366 | 148 |
| TOTAL RENOVATION COSTS | 1,580 | 639 |

Table 36.--Strawberry Renovation Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Mowing | 1 | 2.47 | 1.0 | 70.89 | 28.69 |
| Rotovating | 1 | 4.94 | 2.0 | 98.84 | 40.00 |
| Fertilizing | 2 | 2.47 | 1.0 | 55.00 | 22.26 |
| Weed spraying | 2 | 4.94 | 2.0 | 109.61 | 44.36 |
| Cultivating | 4 | 4.94 | 2.0 | 87.87 | 35.56 |
| Hand hoeing | 1 | 37.1 | 15.0 | 194.59 | 78.75 |
| Mulching | 1 | 19.8 | 8.0 | 203.96 | 82.54 |

Table 37.--Strawberry Preharvest and Harvest Costs for Commercial Harvest: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Preharvest 29.7 hours/ha | 156 | 63 |
| Harvest 1,105 hours/ha | 4,097 | 1,658 |
| Insecticides | 143 | 58 |
| Fungicides | 267 | 108 |
| Containers, 14,827 quarts/ha | 2,539 | 1,028 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 114 | 46 |
| Fuel | 133 | 54 |
| Interest on operating capital | 69 | 28 |
| TOTAL | 7,518 | 3,043 |
| **FIXED COSTS** | | |
| Operator labour: | | |
| Preharvest 14.8 hours/ha | 109 | 44 |
| Harvest 44.5 hours/ha | 329 | 133 |
| Management allowance, 5% of gross income | 927 | 375 |
| Tractor and machine costs: | | |
| Depreciation | 287 | 116 |
| Interest on investment | 133 | 54 |
| Insurance and storage | 59 | 24 |
| Interest on land $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 297 | 120 |
| TOTAL | 2,368 | 958 |
| **TOTAL PREHARVEST AND HARVEST COSTS** | 9,886 | 4,001 |
| **GROSS MARGIN ANALYSIS** (based on assumed yields of 8,407 kg/ha or 6,000 quarts/acre and assumed prices of $2.20/kg or $1.25/quart) | | |
| Gross income | 18,533 | 7,500 |
| Variable costs: | | |
| Establishment (1/4 of cost)[a] | 1,049 | 424 |
| Preharvest and harvest | 7,518 | 3,043 |
| Renovation (3/4 of cost)[a] | 910 | 368 |
| TOTAL | 9,477 | 3,835 |
| Gross margin | 9,056 | 3,665 |
| **CASH ANALYSIS** | | |
| Gross income | 18,533 | 7,500 |
| Cash costs:[b] | | |
| Establishment (1/4 of cost)[a] | 1,138 | 460 |
| Preharvest and harvest | 7,934 | 3,211 |
| Renovation (3/4 of cost)[a] | 936 | 379 |
| TOTAL | 10,008 | 4,050 |
| Returns over cash costs | 8,525 | 3,450 |

[a] The costs shown in this table are based on a system in which there are four harvesting years following the establishment year. Hence, establishment costs are spread over four production years. On the average, a field will be renovated three times during the four-year cycle before the field is taken out of production.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $119/ha ($48/acre) and other overhead costs.

Table 38.--Strawberry Preharvest and Harvest Costs for Commercial Harvest: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| **Preharvest** | | | | | |
| Removing mulch..... | 1 | 7.41 | 3.0 | 77.76 | 31.47 |
| Set-up and irrigating..... | [a] | 9.88 | 4.0 | 404.21 | 163.58 |
| Spraying pesticides..... | 6 | 14.83 | 6.0 | 311.20 | 125.94 |
| Hand weeding..... | 1 | 12.36 | 5.0 | 64.86 | 26.25 |
| **Harvest** | | | | | |
| Harvesting..... | [a] | 971.1 | 393.0 | 3,723.43 | 1,506.85 |
| Assembling masters..... | [a] | 79.1 | 32.0 | 316.29 | 128.00 |
| Miscellaneous work..... | [a] | 98.8 | 40.0 | 518.91 | 210.00 |

[a] Operation performed as required.

Table 39.--Strawberry Preharvest and Harvest Costs for Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Preharvest 29.6 hours/ha | 156 | 63 |
| Harvest 178 hours/ha | 934 | 378 |
| Insecticides | 143 | 58 |
| Fungicides | 267 | 108 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 114 | 46 |
| Fuel | 133 | 54 |
| Advertising | 371 | 150 |
| Interest on operating capital | 20 | 8 |
| TOTAL | 2,138 | 865 |
| **FIXED COSTS** | | |
| Operator labour: | | |
| Preharvest 14.8 hours/ha | 111 | 45 |
| Harvest 44.5 hours/ha | 329 | 133 |
| Management allowance, 5% of gross income | 482 | 195 |
| Tractor and machine costs: | | |
| Depreciation | 287 | 116 |
| Interest on investment | 133 | 54 |
| Insurance and storage | 59 | 24 |
| Interest on land $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 297 | 120 |
| TOTAL | 1,925 | 779 |
| **TOTAL PREHARVEST AND HARVEST COSTS** | 4,063 | 1,644 |
| **GROSS MARGIN ANALYSIS** (based on assumed yields of 8,407 kg/ha or 6,000 quarts/acre and assumed prices of $1.15/kg or 65 cents/quart) | | |
| Gross income | 9,637 | 3,900 |
| Variable costs: | | |
| Establishment (1/4 of cost)[a] | 1,049 | 424 |
| Preharvest and harvest | 2,138 | 865 |
| Renovation (3/4 of cost)[a] | 910 | 368 |
| TOTAL | 4,097 | 1,657 |
| Gross margin | 5,540 | 2,243 |
| **CASH ANALYSIS** | | |
| Gross income | 9,637 | 3,900 |
| Cash costs:[b] | | |
| Establishment (1/4 of cost)[a] | 1,138 | 460 |
| Preharvest and harvest | 2,499 | 1,011 |
| Renovation (3/4 of cost)[a] | 936 | 379 |
| TOTAL | 4,573 | 1,850 |
| Returns over cash costs | 5,064 | 2,050 |

[a] The costs shown in this table are based on a system in which there are four harvesting years following the establishment year. Hence, establishment costs are spread over four production years. On the average, a field will be renovated three times during the four-year cycle before the field is taken out of production.

[b] Cash costs include total variable costs plus interest on the debt portion of investment in tractors and machines of $119/ha ($48/acre) and other overhead costs.

**Table 40.--Strawberry Preharvest and Harvest Costs for Pick-Your-Own: Operation Costs, Ontario, 1988**

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| **Preharvest** | | | | | |
| Removing mulch..... | 1 | 7.41 | 3.0 | 77.76 | 31.47 |
| Set-up and irrigating..... | a | 9.88 | 4.0 | 404.21 | 163.58 |
| Spraying pesticides..... | 6 | 14.83 | 6.0 | 311.20 | 125.94 |
| Hand weeding..... | 1 | 12.36 | 5.0 | 64.86 | 26.25 |
| **Harvest** | | | | | |
| Harvesting supervision.... | a | 44.5 | 18.0 | 461.71 | 186.85 |
| Harvesting assistance..... | a | 177.9 | 72.0 | 934.04 | 378.00 |

[a] Operation performed as required.

Table 41.--Raspberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Fertilizer: | | |
| 8-32-16 150 kg/ha | 44 | 18 |
| Am. Nit. 100 kg/ha | 22 | 9 |
| Herbicides | 635 | 257 |
| Green manure seed | 12 | 5 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 27 | 11 |
| Fuel | 30 | 12 |
| Interest on operating capital | 215 | 87 |
| TOTAL | 985 | 399 |
| FIXED COSTS | | |
| Operator labour, 12.4 hours/ha | 91 | 37 |
| Tractor and machine costs: | | |
| Depreciation | 79 | 32 |
| Interest on investment | 37 | 15 |
| Insurance and storage | 15 | 6 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| TOTAL | 449 | 182 |
| TOTAL "PREPLANT YEAR" COSTS | 1,434 | 581 |

Table 42.--Raspberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Plowing | 2 | 4.94 | 2.0 | 116.38 | 47.10 |
| Discing | 1 | 1.24 | .5 | 24.83 | - 10.05 |
| Seeding green manure | 1 | 2.47 | 1.0 | 55.00 | 22.26 |
| Fertilizing | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Weed spraying | 1 | 2.47 | 1.0 | 54.81 | 22.18 |

Table 43.--Raspberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Hired labour, 89 hours/ha | 393 | 159 |
| Fertilizer: | | |
| 15-15-15 445 kg/ha | 101 | 41 |
| 10-52-10 14 kg/ha | 30 | 12 |
| Insecticides | 15 | 6 |
| Fungicides | 17 | 7 |
| Plants, 4,942/ha | 1,384 | 560 |
| Cover crop seed | 84 | 34 |
| Trickle irrigation | 1,977 | 800 |
| Trellis posts | 193 | 78 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 99 | 40 |
| Fuel | 101 | 41 |
| Interest on operating capital | 739 | 299 |
| TOTAL | 5,133 | 2,077 |
| FIXED COSTS | | |
| Operator labour, 55.6 hours/ha | 413 | 167 |
| Tractor and machine costs: | | |
| Depreciation | 376 | 152 |
| Interest on investment | 188 | 76 |
| Insurance and storage | 79 | 32 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead costs | 247 | 100 |
| TOTAL | 1,530 | 619 |
| TOTAL "PLANTING YEAR" COSTS | 6,663 | 2,696 |

Table 44.--Raspberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Discing | 2 | 2.47 | 1.0 | 49.74 | 20.13 |
| Harrowing | 1 | 1.24 | .5 | 23.97 | 9.70 |
| Fertilizing | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Lay out field | 1 | 7.41 | 3.0 | 54.86 | 22.20 |
| Planting | 1 | 39.54 | 16.0 | 421.25 | 170.48 |
| Irrigation | [a] | 4.94 | 2.0 | 47.94 | 19.40 |
| Cultivating | 4 | 12.36 | 5.0 | 239.44 | 96.90 |
| Hoe, weed, blossom removal | [a] | 49.42 | 20.0 | 197.68 | 80.00 |
| Seeding cover crop | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Spraying pesticides | 2 | 4.94 | 2.0 | 103.73 | 41.98 |
| Installing posts | [a] | 19.77 | 8.0 | 452.10 | 182.96 |

[a] Operation performed as required.

Table 45.--Raspberry "Growth Year" Costs for Commercial Harvest and Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour, 121 hours/hs | 544 | 220 |
| Fertilizer, 17-17-17 340 kg/ha | 86 | 35 |
| Insecticides | 64 | 26 |
| Fungicides | 487 | 197 |
| Herbicides | 7 | 3 |
| Trellis wire | 628 | 254 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 82 | 33 |
| Fuel | 79 | 32 |
| Interest on operating capital | 111 | 45 |
| TOTAL | 2,088 | 845 |
| **FIXED COSTS** | | |
| Operator labour, 29.7 hours/ha | 220 | 89 |
| Tractor and machine costs: | | |
| Depreciation | 175 | 71 |
| Interest on investment | 79 | 32 |
| Insurance and storage | 35 | 14 |
| Interest on land, $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead costs | 247 | 100 |
| TOTAL | 983 | 398 |
| **TOTAL "GROWTH YEAR" COSTS** | 3,071 | 1,243 |

Table 46.--Raspberry "Growth Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| Fertilizing | 1 | 1.24 | .5 | 27.50 | 11.13 |
| Mowing | 3 | 3.71 | 1.5 | 114.31 | 46.26 |
| Hand weeding | a | 12.36 | 5.0 | 49.42 | 20.00 |
| Irrigation | a | 7.41 | 3.0 | 71.91 | 29.10 |
| Weed spraying | 1 | 2.47 | 1.0 | 54.81 | 22.18 |
| Spraying pesticides | 6 | 14.83 | 6.0 | 311.20 | 125.94 |
| Thinning canes | a | 74.13 | 30.0 | 311.96 | 126.25 |
| Stretch wire | a | 34.60 | 14.0 | 261.16 | 105.69 |

[a] Operation performed as required.

Table 47.--Raspberry Preharvest and Harvest Costs for Commercial Harvest: Estimated Cost of Production, Ontario, 1988

| | Cost per hectare | Cost per acre |
|---|---|---|
| | - dollars - | |
| **VARIABLE COSTS** | | |
| Hired labour: | | |
| Preharvest 123.6 hours/ha | 588 | 238 |
| Harvest 858.7 hours/ha | 4,102 | 1,660 |
| Fertilizer, 17-17-17 340 kg/ha | 86 | 35 |
| Insecticides | 64 | 26 |
| Fungicides | 487 | 197 |
| Herbicides | 178 | 72 |
| Miticides | 168 | 68 |
| Containers, 6,672 pints/ha | 726 | 294 |
| Trellis materials | 72 | 29 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 158 | 64 |
| Fuel | 183 | 74 |
| Comfort station rental | 37 | 15 |
| Interest on operating capital | 193 | 78 |
| TOTAL | 7,042 | 2,850 |
| **FIXED COSTS** | | |
| Operator labour: | | |
| Preharvest 87.7 hours/ha | 650 | 263 |
| Harvest 74.1 hours/ha | 548 | 222 |
| Management allowance, 5% of gross income | 583 | 236 |
| Tractor and machine costs: | | |
| Depreciation | 346 | 140 |
| Interest on investment | 148 | 60 |
| Insurance and storage | 69 | 28 |
| Interest on land $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 371 | 150 |
| TOTAL | 2,942 | 1,191 |
| **TOTAL PREHARVEST AND HARVEST COSTS** | 9,984 | 4,041 |
| **GROSS MARGIN ANALYSIS** (assumed yields of 6,672 pints/ha or 2,700 pints/acre and assumed price of $1.75/pint) | | |
| Gross income | 11,676 | 4,725 |
| Variable costs: | | |
| Amortized establishment costs[a] | 2,587 | 1,047 |
| Preharvest and harvest | 7,042 | 2,850 |
| TOTAL | 9,629 | 3,897 |
| Gross margin | 2,047 | 828 |
| **CASH ANALYSIS** | | |
| Gross income | 11,676 | 4,725 |
| Cash costs: | | |
| Amortized establishment costs[a] | 2,587 | 1,047 |
| Preharvest and harvest[b] | 7,486 | 3,030 |
| TOTAL | 10,073 | 4,077 |
| Returns over cash costs | 1,603 | 648 |

[a] Amortized establishment costs include preplant year costs, planting year costs, and growth year costs amortized over five production years at a rate of 5.1 percent.

[b] Cash costs for preharvest and harvest include total variable costs plus interest on the debt portion of investment in tractors and machines of $73/ha ($30/acre) and other overhead costs.

Table 48.--Raspberry Preharvest and Harvest Costs for Commercial Harvest: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| **Preharvest** | | | | | |
| Topping, pruning, thinning | [a] | 123.56 | 50.0 | 639.98 | 259.00 |
| Removing brush..... | [a] | 4.94 | 2.0 | 94.74 | 38.34 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 49.44 | 20.01 |
| Mowing..... | 3 | 3.71 | 1.5 | 114.31 | 46.26 |
| Weed spraying..... | 2 | 4.94 | 2.0 | 104.25 | 42.19 |
| Irrigating..... | [a] | 12.36 | 5.0 | 142.58 | 57.70 |
| Spraying pesticides..... | 7 | 17.30 | 7.0 | 363.06 | 146.93 |
| Removing canes..... | [a] | 24.71 | 10.0 | 129.73 | 52.50 |
| Trellis maintenance..... | [a] | 17.30 | 7.0 | 207.54 | 83.99 |
| **Harvest** | | | | | |
| Supervision..... | [a] | 74.13 | 30.0 | 813.70 | 329.30 |
| Picking..... | [a] | 834.0 | 337.5 | 4,003.02 | 1,620.00 |
| Assembling masters..... | [a] | 24.71 | 10.0 | 98.84 | 40.00 |

[a] Operation performed as required.

Table 49.--Raspberry Preharvest and Harvest Costs for Pick-Your-Own: Estimated Cost of Production, Ontario, 1988

| | Cost | |
|---|---|---|
| | per hectare | per acre |
| | - dollars - | |
| VARIABLE COSTS | | |
| Hired labour: | | |
| Preharvest 123.6 hours/ha | 588 | 238 |
| Harvest 74.1 hours/ha | 358 | 145 |
| Fertilizer, 17-17-17 340 kg/ha | 86 | 35 |
| Insecticides | 64 | 26 |
| Fungicides | 487 | 197 |
| Herbicides | 178 | 72 |
| Miticides | 168 | 68 |
| Trellis materials | 72 | 29 |
| Tractor and machine costs: | | |
| Repairs and maintenance | 158 | 64 |
| Fuel | 183 | 74 |
| Comfort station rental | 37 | 15 |
| Checkout equipment rental | 272 | 110 |
| Parking area maintenance | 148 | 60 |
| Advertising | 395 | 160 |
| Interest on operating capital | 89 | 36 |
| TOTAL | 3,283 | 1,329 |
| FIXED COSTS | | |
| Operator labour: | | |
| Preharvest 87.7 hours/ha | 650 | 263 |
| Harvest 49.4 hours/ha | 366 | 148 |
| Management allowance, 5% of gross income | 418 | 169 |
| Tractor and machine costs: | | |
| Depreciation | 346 | 140 |
| Interest on investment | 148 | 60 |
| Insurance and storage | 69 | 28 |
| Interest on land $4,450/ha @ 5.1% per annum | 227 | 92 |
| Other overhead | 371 | 150 |
| TOTAL | 2,595 | 1,050 |
| TOTAL PREHARVEST AND HARVEST COSTS | 5,878 | 2,379 |
| GROSS MARGIN ANALYSIS(assumed yields of 6,672 pints/ha or 2,700 pints/acre and assumed price of $1.25/pint) | | |
| Gross income | 8,340 | 3,375 |
| Variable costs: | | |
| Amortized establishment costs[a] | 2,587 | 1,047 |
| Preharvest and harvest | 3,283 | 1,329 |
| TOTAL | 6,870 | 2,376 |
| Gross margin | 1,470 | 999 |
| CASH ANALYSIS | | |
| Gross income | 8,340 | 3,375 |
| Cash costs: | | |
| Amortized establishment costs[a] | 2,587 | 1,047 |
| Preharvest and harvest[b] | 3,727 | 1,509 |
| TOTAL | 6,314 | 2,556 |
| Returns over cash costs | 2,026 | 819 |

[a] Amortized establishment costs include preplant year costs, planting year costs, and growth year costs amortized over five production years at a rate of 5.1%.

[b] Cash costs for preharvest and harvest include total variable costs plus interest on the debt portion of investment in tractors and machines of $73/ha ($30/acre) and other overhead costs.

Table 50.--Raspberry Preharvest and Harvest Costs for Pick-Your-Own: Operation Costs, Ontario, 1988

| Operation | Times over | Labour | | Labour, tractor and machine costs | |
|---|---|---|---|---|---|
| | | per ha | per ac. | per ha | per ac. |
| | | - hours - | | - dollars - | |
| **Preharvest** | | | | | |
| Topping, pruning, thinning | [a] | 123.56 | 50.0 | 639.98 | 259.00 |
| Removing brush..... | [a] | 4.94 | 2.0 | 94.74 | 38.34 |
| Fertilizing..... | 1 | 2.47 | 1.0 | 49.44 | 20.01 |
| Mowing..... | 3 | 3.71 | 1.5 | 114.31 | 46.26 |
| Weed spraying..... | 2 | 4.94 | 2.0 | 104.25 | 42.19 |
| Irrigating..... | [a] | 12.36 | 5.0 | 142.58 | 57.70 |
| Spraying pesticides..... | 7 | 17.30 | 7.0 | 363.06 | 146.93 |
| Removing canes..... | [a] | 24.71 | 10.0 | 129.73 | 52.50 |
| Trellis maintenance..... | [a] | 17.30 | 7.0 | 207.54 | 83.99 |
| **Harvest** | | | | | |
| Supervision..... | [a] | 49.42 | 20.0 | 630.85 | 255.30 |
| Check out..... | [a] | 74.13 | 30.0 | 358.29 | 145.00 |

[a] Operation performed as required.

Appendix Table 1.--Marketed Fruit Production, Ontario, 1983-1987

| Crop | Unit | 1983 | 1984 | 1985 | 1986 | 1987[a] |
|---|---|---|---|---|---|---|
| | | | | - '000 - | | |
| **Imperial Units** | | | | | | |
| Apples | lb | 364,185 | 317,600 | 402,777 | 347,359 | 342,460 |
| Blueberries | qt | n/a | n/a | n/a | 924 | 921 |
| Cantaloupes | lb | 1,245 | 2,139 | 1,818 | 3,790 | 4,075 |
| Cherries, sour | lb | 12,642 | 15,285 | 13,696 | 8,460 | 13,600 |
| Cherries, sweet | lb | 4,040 | 5,129 | 3,464 | 3,048 | 2,750 |
| Grapes | lb | 156,634 | 180,074 | 138,672 | 170,285 | 156,266 |
| Peaches | lb | 59,744 | 45,472 | 70,014 | 56,898 | 71,800 |
| Pears | lb | 28,379 | 27,125 | 28,101 | 34,288 | 30,516 |
| Plums and prunes | lb | 5,927 | 6,658 | 7,204 | 10,876 | 7,100 |
| Raspberries | qt | 856 | 833 | 1,094 | 1,495 | 1,791 |
| Strawberries | qt | 14,072 | 16,492 | 22,670 | 20,995 | 19,318 |
| **Metric Units** | | | | - tonnes - | | |
| Apples | | 165,192 | 144,061 | 182,698 | 157,561 | 155,339 |
| Blueberries | | n/a | n/a | n/a | 524 | 522 |
| Cantaloupes | | 565 | 970 | 825 | 1,719 | 1,848 |
| Cherries, sour | | 5,734 | 6,933 | 6,212 | 3,837 | 6,169 |
| Cherries, sweet | | 1,833 | 2,326 | 1,571 | 1,383 | 1,247 |
| Grapes | | 71,048 | 81,680 | 62,901 | 77,241 | 70,882 |
| Peaches | | 27,099 | 20,626 | 31,758 | 25,809 | 32,568 |
| Pears | | 12,873 | 12,303 | 12,745 | 15,553 | 13,842 |
| Plums and prunes | | 2,688 | 3,020 | 3,268 | 4,933 | 3,221 |
| Raspberries | | 485 | 472 | 620 | 848 | 1,015 |
| Strawberries | | 7,979 | 9,351 | 12,854 | 11,904 | 10,953 |

[a] Preliminary, subject to revision.
Source: Seasonal Fruit and Vegetable Report, Annual Summary, Economics and Policy Coordination Branch, Ontario Ministry of Agriculture and Food.

**Appendix Table 2.--Average Prices Received for Fruit, Ontario, 1983-1987**

| Crop | | 1983 | 1984 | 1985 | 1986 | 1987 |
|---|---|---|---|---|---|---|
| | | | | - cents/lb - | | |
| Apples | - fresh | 15.5 | 16.6 | 15.1 | 20.8 | 20.0 |
| | - proc. | 6.7 | 7.8 | 5.3 | 6.9 | 5.6 |
| Blueberries | - fresh | n/a | n/a | n/a | 135.2 | 160.2 |
| Cantaloupes | - fresh | 27.3 | 31.6 | 34.0 | 26.9 | 24.5 |
| Cherries, sour | - fresh | 58.6 | 43.1 | 41.5 | 45.3 | 26.1 |
| | - proc. | 50.7 | 34.5 | 38.3 | 42.0 | 18.3 |
| Cherries, sweet | - fresh | 39.6 | 43.8 | 77.4 | 71.6 | 69.6 |
| | - proc. | 30.4 | 32.3 | 32.8 | 36.1 | 37.2 |
| Grapes | - fresh | 23.4 | 23.0 | 26.9 | 30.0 | 28.9 |
| | - proc. | 20.6 | 18.7 | 18.8 | 17.9 | 18.9 |
| Peaches | - fresh | 24.0 | 30.0 | 26.0 | 29.1 | 26.6 |
| | - proc. | 21.3 | 22.3 | 23.2 | 23.3 | 23.3 |
| Pears | - fresh | 20.0 | 24.4 | 27.7 | 24.7 | 25.1 |
| | - proc. | 14.0 | 15.3 | 17.0 | 17.2 | 17.8 |
| Plums and prunes | - fresh | 25.0 | 33.4 | 57.8 | 27.8 | 23.8 |
| | - proc. | 15.9 | 16.2 | 17.5 | 16.3 | 15.4 |
| Raspberries | - fresh | 174.4 | 177.8 | 166.3 | 163.8 | 170.8 |
| Strawberries | - fresh | 53.8 | 53.5 | 55.7 | 61.4 | 61.9 |
| | | | | - cents/kg - | | |
| Apples | - fresh | 34.2 | 36.6 | 33.3 | 45.9 | 44.1 |
| | - proc. | 14.8 | 17.2 | 11.7 | 15.2 | 12.3 |
| Blueberries | - fresh | n/a | n/a | n/a | 298.1 | 353.2 |
| Cantaloupes | - fresh | 60.2 | 69.7 | 75.0 | 59.3 | 54.0 |
| Cherries, sour | - fresh | 129.2 | 95.0 | 91.5 | 99.9 | 57.5 |
| | - proc. | 111.8 | 76.1 | 84.4 | 92.6 | 40.3 |
| Cherries, sweet | - fresh | 87.3 | 96.6 | 170.6 | 157.8 | 153.4 |
| | - proc. | 67.0 | 71.2 | 72.3 | 79.6 | 82.0 |
| Grapes | - fresh | 51.6 | 50.7 | 59.3 | 66.1 | 63.7 |
| | - proc. | 45.4 | 41.2 | 41.4 | 39.5 | 41.7 |
| Peaches | - fresh | 52.9 | 66.1 | 57.3 | 64.2 | 58.6 |
| | - proc. | 47.0 | 49.2 | 51.1 | 51.4 | 51.4 |
| Pears | - fresh | 44.1 | 53.8 | 61.1 | 54.5 | 55.3 |
| | - proc. | 30.9 | 33.7 | 37.5 | 37.9 | 39.2 |
| Plums and prunes | - fresh | 55.1 | 73.6 | 127.4 | 61.3 | 52.5 |
| | - proc. | 35.1 | 35.7 | 38.6 | 35.9 | 34.0 |
| Raspberries | - fresh | 384.5 | 392.0 | 366.6 | 361.1 | 376.5 |
| Strawberries | - fresh | 118.6 | 117.9 | 122.8 | 135.4 | 136.5 |

Source: Seasonal Fruit and Vegetable Report, Economics and Policy Coordination Branch, Ontario Ministry of Agriculture and Food.

**Appendix Table 3:--Minimum Prices Paid for Tender Fruit for Processing, Ontario, 1984-1988**

| Crop | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|
| | | | - $/ton - | | |
| Sweet cherries, | | | | | |
| canning..... | 1,001.50 | 1,161.50 | 1,201.50 | 1,201.50 | 1,281.50 |
| maraschino..... | 561.50 | 601.50 | 641.50 | 721.50 | 721.50 |
| Sour cherries, | | | | | |
| 97 to 100 grade... | 726.90 | 814.10 | 923.10 | 399.90 | 705.10 |
| Plums..... | 291.50 | 303.50 | 303.50 | 311.50 | 316.50 |
| Prunes..... | 335.50 | 348.50 | 348.50 | 357.50 | 362.50 |
| Damsons..... | 358.50 | 372.50 | 372.50 | 381.50 | 386.50 |
| Bartlett pears, | | | | | |
| No. 1..... | 326.50 | 359.50 | 359.50 | 372.50 | 377.50 |
| No. 2..... | 204.50 | 212.50 | 212.50 | 220.50 | 225.50 |
| Other pears, No. 1.. | 290.50 | 319.50 | 319.50 | 327.50 | 332.50 |
| Peaches, | | | | | |
| Freestone..... | 392.50 | 408.50 | 408.50 | 408.50 | 413.50 |
| Clingstone..... | 447.50 | 465.50 | 465.50 | 465.50 | 470.50 |

Source: Ontario Tender Fruit Producers' Marketing Board.

**Appendix Table 4:--Minimum Prices Paid for Grapes for Processing, Ontario, 1983-1987**

| | 1983 | 1984 | 1985 | 1986 | 1987 |
|---|---|---|---|---|---|
| | | | - $/ton - | | |
| Class 1. (Concord, Fredonia, Beta, Clinton, Lincoln, Lomanto, Patricia, VanBuren & Westfield)..... | 306 | 295 | 271 | 271 | 273 |
| Class 1A. (Veeport)..... | 306 | 295 | 271 | 271 | 205 |
| Class 2. (Elvira, Buffalo, Missouri Riesling, Ontario, Seneca, V35122 and V35123)..... | 339 | 316 | 310 | 318 | 300 |
| Class 3. (Niagara)..... | 287 | 275 | 265 | 263 | 265 |
| Class 3A. (Agawam, Brighton, Vergennes, Diana, Caco)..... | 298 | 285 | 270 | 270 | 275 |
| Class 4. (Catawba & Ventura)..... | 385 | 361 | 346 | 355 | 320 |
| Class 5. (Blue French Hybrids, Baco Noir, Villard Noir, Chancellor, Cascade and Chambourcin)..... | 446 | 428 | 422 | 430 | 443 |
| Class 5A. (deChaunac)..... | 361 | 347 | 340 | 335 | 318 |
| Class 5B. (Chelois)..... | 458 | 435 | 427 | 440 | 453 |
| Class 5C. (Rosette)..... | 446 | 428 | 375 | 360 | 324 |
| Class 6. (N.Y. Muscat, Canada Muscat)... | 636 | 600 | 564 | 565 | 582 |
| Class 6A. (Marechal Foch and Leon Millot)..... | 448 | 430 | 422 | 415 | 395 |
| Class 6B. (Alden, Veeblanc, Vincent).... | 636 | 600 | 461 | 462 | 462 |
| Class 6C. (Delaware, Dutchess)..... | 636 | 600 | 564 | 565 | 525 |
| Class 7. (White French Hybrids, Seibel 8229, 10868, 13047, Aurore, Verdelet, Seyve-Villard 172 and 23512, Seyval Blanc, Siegfried Rebe and Vidal 256).. | 653 | 615 | 585 | 600 | 600 |
| Class 8. (LeCommandant)..... | 459 | 439 | 420 | 405 | 365 |
| Class 8A. (Couderc 29935, Colobel, Florental and B.S. 2846)..... | 638 | 598 | 594 | 610 | 610 |
| Class 9. (J. Riesling, Bacchus, Kerner). | 868 | 800 | 760 | 783 | 806 |
| Class 9A. (Gamay, Aligote)..... | 933 | 870 | 810 | 834 | 859 |
| Class 9B. (Chardonnay)..... | 933 | 870 | 825 | 850 | 875 |
| Class 9C. (all other Vinifera)..... | 1,000 | 925 | 875 | 910 | 937 |
| Class 10. (experimental varieties)..... | 559 | 549 | 563 | 571 | 570 |